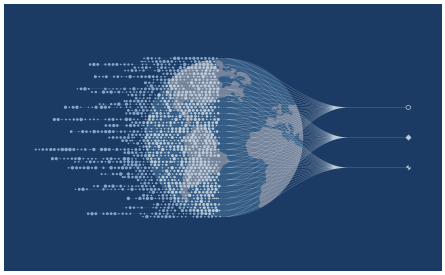

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the characteristics of infrasound signals as detected from a balloon platform: Earth and Venus applications

The Strateole2 campaign deployed superpressure balloons for several weeks in the southern stratosphere. On 15 January 2022, their pressure sensors detected infrasound signals (0.01 to 1 Hz) from the major eruption of the Hunga Tonga Hunga Ha'apai (HTHH) volcano. These signals present differences in amplitude and frequency content compared to recording of ground International Monitoring System stations. Using HTHH as a case study, we apply ray-tracing and normal mode modeling techniques, coupled with ERA5 atmospheric models, to understand the particularities of the infrasound wavefield at these elevated platforms. We also propose to generalize these results to different seasons and geographical source-receiver location combinations. A key objective for our future work is to apply such frameworks to assess the possibilities for balloon based seismoacoustic probing on Venus.

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